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CLAIMS

1. Device (1; 2; 3; 4) for the measurement of a speed, comprising:

- At least one source (10; 20; 30; 40) designed for the generation of at least one emission,
- At least two paths (11, 12; 21, 22; 31, 32; 41, 42) on which, respectively, at least one part of the at least one emission generated by the at least one source (10; 20; 30; 40) propagates with a respective known wavelength and a respective known propagation speed, wherein the paths (11, 12; 21, 22; 31, 32; 41, 42) are formed in such a way that a translatory movement of the device (1; 2; 3; 4) causes a phase displacement between the emission parts propagated on the at least two paths (11, 12; 21, 22; 31, 32; 41, 42), and
- Evaluation means (13; 23; 33; 43, 44) designed for the detection of emission parts which leave the at least two paths (11, 12; 21, 22; 31, 32; 41, 42), and for the determination of the speed of the device (1; 2; 3; 4) in at least one spatial direction by the evaluation of a change in the phase displacement between the detected emission parts in comparison with a phase displacement with the device (1; 2; 3; 4) at rest,

wherein the device (1; 2; 3; 4) is designed in such a way that a change in the phase displacement of the emission parts detected by the evaluation means (13; 23; 33; 43, 44) due to a rotational movement of the device (1; 2; 3; 4) is prevented or compensated for.

2. Device (1) according to Claim 1, wherein the at least two paths (11, 12) exhibit different materials or different combinations of materials.

3. Device (2) according to Claim 1 or 2, wherein the at least two paths (21, 22) exhibit different geometric lengths.

4. Device (2) according to one of the foregoing claims, wherein, in order to prevent a change in the phase displacement between the emission parts detected by the evaluation means (23) due to a rotational movement of the device (2), each of the at least two paths (21, 22) exhibits, outside an imaginary straight line, path parts of essentially equal size on opposite sides of this straight line.

5. Device (1) according to one of Claims 1 to 3, further comprising detection means (14) designed for the detection of a rotational movement of the device (1), wherein the evaluation means (13) are designed for the compensation of a change incurred by a rotational movement on the at least two paths (11, 12) in the phase displacement between detected emission parts on the basis of information from the detection means (14).

6. Device (3; 4) according to one of the foregoing claims, wherein the at least two paths (31, 32; 41, 42) are designed in such a way that they exhibit at least one common path section (34), which is run through in opposite directions by the emission parts fed into the at least two paths (31, 32; 41, 42).

7. Device (4) according to Claim 6, wherein the common path section is designed in such a way that it exhibits a path part which is run through by one of the emission parts essentially in the direction of measurement of the device (4) and a path part which is run through by this emission part essentially in the opposite direction, wherein the two path parts, with the device (4) at rest, exhibit a different physical length.

8. Device according to one of the foregoing claims, further comprising an acceleration sensor designed for creating a reference to the local gravity normal.

9. System (6) for the measurement of a speed, comprising at least one device (1; 2; 3; 4) according to one of the foregoing claims, which is arranged in the system (6) for the measurement of a speed of the system (6).

10. System (6) according to Claim 9, wherein the at least one device (1; 2; 3; 4) comprises at least six devices (1; 2; 3; 4) which are arranged in the system (6) for the measurement of a speed and a rotation of the system (6) in different spatial directions (70, 71, 72).

11. Method for the measurement of the speed of a device (1; 2; 3; 4) comprising:
- The generation of at least one emission,
- The transfer of respectively at least one part of the at least one emission on at least two paths (11, 12; 21, 22; 31, 32; 41, 42) with a respective known wavelength and a respective known propagation speed, wherein a translatory movement of the device (1; 2; 3; 4) causes a phase displacement between the emission parts propagating on the at least two paths (11, 12; 21, 22; 31, 32; 41, 42);
- The detection of the emission parts leaving the at least two paths (11, 12; 21, 22; 31, 32; 41, 42); and
- The determination of the speed of the device (1; 2; 3; 4) in at least one spatial direction by the evaluation of a change in the phase displacement between the detected emission parts in comparison with a phase displacement with the device (1; 2; 3; 4) at rest, wherein a change in the phase displacement of the emission parts due to a rotational movement of the device (1; 2; 3; 4) is prevented or compensated for.

12. Method according to Claim 11, comprising:
- Determination of the speed of at least six devices (1; 2; 3; 4) in six different spatial directions (70, 71, 72), and
- Determination of the speed and the rotation of a system (6) comprising the at least six devices (1; 2; 3; 4) from the speeds detected for the respective device (1; 2; 3; 4).